



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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NEW SOURCE CONSTRUCTION PERMIT and MINOR SOURCE OPERATING PERMIT OFFICE OF AIR QUALITY

**Acuity Lighting Group, Inc., A Delaware Corporation
1615 East Elmore Street
Crawfordsville, Indiana 47933**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 107-17896-00037

Issued by: Original signed by
Paul Dubenetzky, Branch Chief
Office of Air Quality

Issuance Date: **December 31, 2003**

Expiration Date: **December 31, 2008**

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SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in Conditions A.1 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary lighting fixture manufacturing source.

Authorized Individual:	Director of Operations
Source Address:	1615 East Elmore Street, Crawfordsville, Indiana 47933
Mailing Address:	1615 East Elmore Street, Crawfordsville, Indiana 47933
General Source Phone:	(765) 362-1837
SIC Code:	3645
County Location:	Montgomery
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Minor Source Operating Permit Minor Source, under PSD Rules; Minor Source, Section 112 of the Clean Air Act

A.2 Emissions Units and Pollution Control Equipment Summary

This stationary source is approved to construct and operate the following emissions units and pollution control devices:

- (a) One (1) pyrolysis cleaning oven, identified as A4, constructed in 2000, controlled with an afterburner and exhausting to Stack A4, rated at 0.95 million British thermal units per hour, capacity: 20 pounds of metal parts per hour.
- (b) One (1) natural gas-fired air make-up unit, identified as A1, constructed in 1986, exhausting to Stack A1, rated at 1.925 million British thermal units per hour.
- (c) One (1) natural gas-fired air make-up unit, identified as A2, constructed in 1980, exhausting to Stack A2, rated at 2.0 million British thermal units per hour.
- (d) One (1) natural gas-fired air make-up unit, identified as A3, constructed in 1980, exhausting to Stack A3, rated at 2.0 million British thermal units per hour.
- (e) One (1) natural gas-fired air make-up unit, identified as B1, constructed in 2000, exhausting to Stack B1, rated at 1.944 million British thermal units per hour.
- (f) One (1) natural gas-fired air make-up unit, identified as B2, constructed in 1979, exhausting to Stack B2, rated at 1.646 million British thermal units per hour.
- (g) One (1) natural gas-fired air make-up unit, identified as B3, constructed in 1977, exhausting to Stack B3, rated at 1.5 million British thermal units per hour.
- (h) One (1) water treatment burner, identified as A5, constructed in 1985, exhausting to Stack A5, rated at 2.5 million British thermal units per hour.
- (i) One (1) water treatment burner, identified as A6, constructed in 1985, exhausting to Stack A6, rated at 3.8 million British thermal units per hour.

- (j) One (1) bake oven, identified as A7, constructed in 1985, exhausting to Stack A7, rated at 3.5 million British thermal units per hour.
- (k) One (1) drying oven, identified as A8, constructed in 1985, exhausting to Stack A8, rated at 2.0 million British thermal units per hour.
- (l) Six (6) metal inert gas welding stations, constructed in 1995, capacity: 1.7 pounds of wire per station per hour and a total of 1,500 pounds of sheet metal per hour.
- (m) One (1) fully enclosed powder paint line, consisting of three (3) application booths, installed in March 1986, equipped with dust collectors to reclaim paint, capacity: 347,000 pounds of powder paint per year.
- (n) One (1) roll coating process, beginning operation in June 1987, capacity: 170 metal parts per hour.
- (o) One (1) natural gas-fired air makeup unit, identified as A9, constructed in April 2002, exhausting to Stack A9, rated at 1.944 million British thermal units per hour.
- (p) One (1) natural gas-fired air makeup unit, identified as A10, constructed in April 2002, exhausting to Stack A10, rated at 2.916 million British thermal units per hour.
- (q) Two (2) natural gas-fired air makeup units, identified as A11 and A12, exhausting to Stacks A11 and A12, respectively, rated at 4.579 million British thermal units per hour, each.
- (r) Two (2) natural gas-fired boilers, identified as A13₁ and A13₂, exhausting to Stack A13, rated at 3.360 million British thermal units per hour, each.
- (s) One (1) anodizing line, with a maximum capacity of 2,000 pounds of parts per hour, consisting of:
 - (1) Three (3) natural gas-fired dryers, identified as A14 through A16, with dryers A14 and A15 exhausting to Stack A14 and dryer A16 exhausting to Stack A16, rated at 0.55 million British thermal units per hour, each.
 - (2) Three (3) alkaline cleaner tanks, identified as A17 and exhausting through Stack A17, using a cleaner and sodium hydroxide, maximum usage rate: 60 pounds per hour.
 - (3) One (1) caustic etch tank, identified as A18 and equipped with a scrubber, identified as S1, exhausting through Stack A18, using sodium hydroxide and etching materials, maximum solution usage rate: 40 pounds per hour.
 - (4) One (1) acid clean tank, identified as A19 and exhausting through Stack A19, using phosphoric acid, maximum acid cleaner usage rate: 10 pounds per hour.
 - (5) One (1) Bright Dip tank, identified as A20 and equipped with a scrubber, identified as S2, exhausting to Stack A20, using phosphoric acid and nitric acid, maximum acid usage rate: 580 pounds per hour.
 - (6) One (1) Desmut tank, identified as A21 and exhausting through Stack A21, using nitric acid, maximum acid usage rate: 20 pounds per hour.
 - (7) Five (5) sulfuric acid anodizing tanks, identified as A22, equipped with a scrubber, identified as S3, and exhausting to Stack A22, maximum acid usage rate: 100 pounds per hour.

- (8) Three (3) seal tanks, identified as A23 and exhausting through Stack A23, maximum material usage rate: 6.0 pounds per hour, total.
- (9) One (1) seal tank, identified as A24, and exhausting through Stack A24, maximum material usage rate: 2.0 pounds per hour.
- (t) Fifteen (15) buffing machines, identified as A25, all exhausting to a scrubber, identified as S4, and exhausting through Stack A25, maximum capacity: 30 pounds of buffing compound and 2,000 pounds of parts per hour.
- (u) One (1) ultraviolet painting operation, identified as Flange Painting, using roll coating to apply materials, capacity: 200 aluminum reflectors per hour.
- (v) One (1) glueing operation, identified as Glueing, using flow coating to apply materials, capacity: 50 aluminum reflectors per hour.
- (w) Paved and unpaved roads.

SECTION B GENERAL CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

B.1 Permit No Defense [IC 13]

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.5 Permit Term and Renewal [326 IAC 2-6.1-7(a)] [326 IAC 2-1.1-9.5]

This permit is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions of this permit do not affect the expiration date.

The Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date. If a timely and sufficient permit application for a renewal has been made, this permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.

B.6 Modification to Permit [326 IAC 2]

Notwithstanding the Section B condition entitled "Minor Source Operating Permit", all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

B.7 Minor Source Operating Permit [326 IAC 2-6.1]

This document shall also become a minor source operating permit pursuant to 326 IAC 2-6.1 when, prior to start of operation, the following requirements are met:

- (a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section.
 - (1) If the Affidavit of Construction verifies that the facilities covered in this Construction Permit were constructed as proposed in the application, then the facilities may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
 - (2) If actual construction of the emission units differs from the construction proposed in the application, the source may not begin operation until the permit has been revised pursuant to 326 IAC 2-6.1-6 and an Operation Permit Validation Letter is issued.
- (b) If construction is completed in phases; i.e., the entire construction is not done continuously,

a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as Stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.

- (c) Upon receipt of the Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section, the Permittee shall attach it to this document.
- (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1.1-7(Fees).

B.8 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) Annual notification shall be submitted to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015
- (d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

B.9 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each emissions unit:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The PMP extension notification does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall implement the PMPs, including any required record keeping, as necessary to ensure that failure to implement a PMP does not cause or contribute to an exceedance of any limitation on emissions or potential to emit.
- (c) A copy of the PMP's shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMP whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMP does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation, Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.10 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) Permit revisions are governed by the requirements of 326 IAC 2-6.1-6.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1.
- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]
- (d) No permit amendment or modification is required for the addition, operation or removal of a nonroad engine, as defined in 40 CFR 89.2.

B.11 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)] [IC 13-14-2-2] [IC 13-20-3-1] [IC 13-17-3-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.12 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)] :

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAQ, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

B.13 Annual Fee Payment [326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing.
- (b) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, I/M & Billing Section), to determine the appropriate permit fee.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

C.1 Particulate Emission Limitation For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Permit Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.4 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.5 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the plan submitted on August 28, 2003. The plan consists of:

Cleaning all roads and parking lots on an as needed basis

C.6 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using ambient air quality modeling pursuant to 326 IAC 1-7-4.

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
 - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
 - (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by an "authorized individual" as defined by 326 IAC 2-7-1(34).

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

- (f) Demolition and renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) Indiana Accredited Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Accredited Asbestos inspector is not federally enforceable.

Testing Requirements

C.8 Performance Testing [326 IAC 3-6]

- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date.

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual date.
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ, not later than forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U.S. EPA.

Compliance Monitoring Requirements

C.10 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record Keeping requirements not already legally required shall be implemented when operation begins.

C.11 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60, Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.12 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11]

- (a) Whenever a condition in this permit requires the measurement of total static pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (b) Whenever a condition in this permit requires the measurement of a temperature or flow rate, the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (c) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.

C.13 Compliance Response Plan - Preparation and Implementation

- (a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ, upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:
 - (1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.
 - (2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan, the Permittee shall amend its Compliance Response Plan to include such response steps taken.
- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:
 - (1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or
 - (2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.
 - (3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, and it will be 10 days or more until the unit or device will be shut down, then the permittee shall promptly notify the IDEM, OAQ of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.
 - (4) Failure to take reasonable response steps shall be considered a deviation from the

permit.

- (c) The Permittee is not required to take any further response steps for any of the following reasons:
 - (1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for a minor permit modification to the permit, and such request has not been denied.
 - (3) An automatic measurement was taken when the process was not operating.
 - (4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.
- (d) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected emissions unit while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1.

Record Keeping and Reporting Requirements

C.15 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.

- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.16 General Record Keeping Requirements [326 IAC 2-6.1-5]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record Keeping requirements not already legally required shall be implemented when operation begins.

C.17 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) Reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) Unless otherwise specified in this permit, any semi-annual report required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. The reports do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

SECTION D.1

FACILITY OPERATION CONDITIONS

Facility Description: Combustion facilities (A1-A8 and B1-B3)

- (a) One (1) pyrolysis cleaning oven, identified as A4, constructed in 2000, controlled with an afterburner and exhausting to Stack A4, rated at 0.95 million British thermal units per hour, capacity: 20 pounds of metal parts per hour.
- (b) One (1) natural gas-fired air make-up unit, identified as A1, constructed in 1986, exhausting to Stack A1, rated at 1.925 million British thermal units per hour.
- (c) One (1) natural gas-fired air make-up unit, identified as A2, constructed in 1980, exhausting to Stack A2, rated at 2.0 million British thermal units per hour.
- (d) One (1) natural gas-fired air make-up unit, identified as A3, constructed in 1980, exhausting to Stack A3, rated at 2.0 million British thermal units per hour.
- (e) One (1) natural gas-fired air make-up unit, identified as B1, constructed in 2000, exhausting to Stack B1, rated at 1.944 million British thermal units per hour.
- (f) One (1) natural gas-fired air make-up unit, identified as B2, constructed in 1979, exhausting to Stack B2, rated at 1.646 million British thermal units per hour.
- (g) One (1) natural gas-fired air make-up unit, identified as B3, constructed in 1977, exhausting to Stack B3, rated at 1.5 million British thermal units per hour.
- (h) One (1) water treatment burner, identified as A5, constructed in 1985, exhausting to Stack A5, rated at 2.5 million British thermal units per hour.
- (i) One (1) water treatment burner, identified as A6, constructed in 1985, exhausting to Stack A6, rated at 3.8 million British thermal units per hour.
- (j) One (1) bake oven, identified as A7, constructed in 1985, exhausting to Stack A7, rated at 3.5 million British thermal units per hour.
- (k) One (1) drying oven, identified as A8, constructed in 1985, exhausting to Stack A8, rated at 2.0 million British thermal units per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.1.1 Particulate Matter (PM) [326 IAC 4-2-2]

Pursuant to 326 IAC 4-2-2, the one (1) controlled pyrolysis cleaning oven, which serves as an incinerator, shall:

- (a) Consist of primary and secondary chambers or the equivalent;
- (b) Be equipped with a primary burner;
- (c) Comply with 326 IAC 5-1 (Opacity Limitations) and 326 IAC 2 (Permit Review Rules);
- (d) Be maintained properly as specified by the manufacturer and approved by IDEM;
- (e) Be operated according to the manufacturer's recommendation and only burn waste approved

by IDEM;

- (f) Comply with other state and/or local rules or ordinances regarding installation and operation of incinerators;
- (g) Be operated so that emissions of hazardous materials including, but not limited to, viable pathogenic bacteria, dangerous chemical or gases, or noxious odors are prevented;
- (h) Not create a nuisance or a fire hazard; and
- (i) Not emit particulate matter (PM) in excess of 0.5 pounds per 1,000 pounds of dry exhaust gas corrected to fifty percent (50%) excess air.

The operation of the incinerator shall be terminated immediately upon noncompliance with any of the above mentioned requirements.

SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description: Welding

- (l) Six (6) metal inert gas welding stations, constructed in 1995, capacity: 1.7 pounds of wire per station per hour and a total of 1,500 pounds of sheet metal per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.2.1 Particulate [326 IAC 6-3-2]

Any change or modification which increases the weld wire or rod usage from the six (6) metal inert gas welding stations to six hundred and twenty-five (625) pounds per day may cause the facilities to become subject to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), and shall require prior IDEM, OAQ, approval.

SECTION D.3

FACILITY OPERATION CONDITIONS

Facility Description: Powder coating and roll coating

- (m) One (1) fully enclosed powder paint line, consisting of three (3) application booths, installed in March 1986, equipped with dust collectors to reclaim paint, capacity: 347,000 pounds of powder paint per year.
- (n) One (1) roll coating process, beginning operation in June 1987, capacity: 170 metal parts per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.3.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(d), the one (1) fully enclosed powder paint line is subject to the following:

- (a) Particulate from the surface coating manufacturing processes shall be controlled by a dry particulate filter, waterwash, or an equivalent control device, and the Permittee shall operate the control device in accordance with manufacturer's specifications.
- (b) If overspray is visibly detected at the exhaust or accumulates on the ground, the Permittee shall inspect the control device and do either of the following no later than four (4) hours after such observation:
 - (1) Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
 - (2) Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
- (c) If overspray is visibly detected, the Permittee shall maintain a record of the action taken as a result of the inspection, any repairs of the control device, or change in operations, so that overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.

D.3.2 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

Any change or modification which increases the VOC emissions from the one (1) fully enclosed powder paint line or one (1) roll coating process to twenty-five (25) tons per year or more may cause that facility to become subject to 326 IAC 8-2-9 and shall require prior IDEM, OAQ, approval.

D.3.3 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the powder paint line and its control device.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.3.4 Record Keeping Requirements

- (a) To document compliance with Condition D.3.3, the Permittee shall maintain records of any inspections prescribed by the Preventive Maintenance Plan.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.4

FACILITY OPERATION CONDITIONS

Facility Description: Combustion facilities (A9-A12)

- (o) One (1) natural gas-fired air makeup unit, identified as A9, constructed in April 2002, exhausting to Stack A9, rated at 1.944 million British thermal units per hour.
- (p) One (1) natural gas-fired air makeup unit, identified as A10, constructed in April 2002, exhausting to Stack A10, rated at 2.916 million British thermal units per hour.
- (q) Two (2) natural gas-fired air makeup units, identified as A11 and A12, exhausting to Stacks A11 and A12, respectively, rated at 4.579 million British thermal units per hour, each.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

There are no conditions specifically applicable to these facilities.

SECTION D.5

FACILITY OPERATION CONDITIONS

Facility Description: Boilers

- (r) Two (2) natural gas-fired boilers, identified as A13₁ and A13₂, exhausting to Stack A13, rated at 3.360 million British thermal units per hour, each.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.5.1 Particulate [326 IAC 6-2-4]

- (a) Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating) the PM emissions from the two (2) boilers, rated at 3.360 million British thermal unit per hour heat input, each, shall be limited to 0.6 pounds per million British thermal units heat input.
- (b) Pursuant to 326 IAC 6-2-4 (a), for total heat input capacities less than 10 million British thermal units per hour, the PM emissions shall not exceed 0.6 pounds per million British thermal units heat input.

SECTION D.6

FACILITY OPERATION CONDITIONS

Facility Description: Anodizing line

- (s) One (1) anodizing line, with a maximum capacity of 2,000 pounds of parts per hour, consisting of:
- (1) Three (3) natural gas-fired dryers, identified as A14 through A16, with dryers A14 and A15 exhausting to Stack A14 and dryer A16 exhausting to Stack A16, rated at 0.55 million British thermal units per hour, each.
 - (2) Three (3) alkaline cleaner tanks, identified as A17 and exhausting through Stack A17, using a cleaner and sodium hydroxide, maximum usage rate: 60 pounds per hour.
 - (3) One (1) caustic etch tank, identified as A18 and equipped with a scrubber, identified as S1, exhausting through Stack A18, using sodium hydroxide and etching materials, maximum solution usage rate: 40 pounds per hour.
 - (4) One (1) acid clean tank, identified as A19 and exhausting through Stack A19, using phosphoric acid, maximum acid cleaner usage rate: 10 pounds per hour.
 - (5) One (1) Bright Dip tank, identified as A20 and equipped with a scrubber, identified as S2, exhausting to Stack A20, using phosphoric acid and nitric acid, maximum acid usage rate: 580 pounds per hour.
 - (6) One (1) Desmut tank, identified as A21 and exhausting through Stack A21, using nitric acid, maximum acid usage rate: 20 pounds per hour.
 - (7) Five (5) sulfuric acid anodizing tanks, identified as A22, equipped with a scrubber, identified as S3, and exhausting to Stack A22, maximum acid usage rate: 100 pounds per hour.
 - (8) Three (3) seal tanks, identified as A23 and exhausting through Stack A23, maximum material usage rate: 6.0 pounds per hour, total.
 - (9) One (1) seal tank, identified as A24, and exhausting through Stack A24, maximum material usage rate: 2.0 pounds per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.6.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) Bright Dip tank, identified as A20, shall not exceed 4.86 pounds per hour when operating at a process weight rate of 2,580 pounds per hour. The pounds per hour limitation was calculated using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

SECTION D.7

FACILITY OPERATION CONDITIONS

Facility Description: Buffing

- (t) Fifteen (15) buffing machines, identified as A25, all exhausting to a scrubber, identified as S4, and exhausting through Stack A25, maximum capacity: 30 pounds of buffing compound and 2,000 pounds of parts per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.7.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the fifteen (15) buffing machines, collectively identified as A25, all exhausting to a scrubber (S4), shall not exceed 4.14 pounds per hour, total, when operating a process weight rate of 2,030 pounds of parts and buffing materials per hour. The pounds per hour limitation was calculated using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

D.7.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control device.

Compliance Determination Requirements

D.7.3 Particulate Control

In order to comply with Condition D.7.1, the scrubber (S4) for particulate control shall be in operation and control emissions from the fifteen (15) buffing machines at all times that any of the buffing machines are in operation.

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.7.4 Visible Emissions Notations

- (a) Visible emission notations of the buffing stack (Stack A25) exhaust shall be performed once per shift during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and

response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation and Implementation shall be considered a violation of this permit.

D.7.5 Parametric Monitoring

The Permittee shall record the total static pressure drop across the scrubber used in conjunction with the fifteen (15) buffing machines (A25), the scrubbing liquor flow rate, and the pH at least once per shift when the buffing machines are in operation. When for any one reading, the pressure drop across the scrubber is outside the normal range of 8.0 and 30.0 inches of water, or the scrubbing liquor flow rate is outside the normal range of 450 and 1,200 gallons per minute, or ranges established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation and Implementation. A pressure or flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation and Implementation shall be considered a violation of this permit.

The instruments used for determining the pressure and flow rate shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.7.6 Scrubber Inspections

An inspection shall be performed each calendar quarter of the scrubber (S4) controlling the fifteen (15) buffing machines (A25) when venting to the atmosphere. Inspections required by this condition shall not be performed in consecutive months.

D.7.7 Scrubber Failure Detection

In the event that a scrubber failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation and Implementation shall be considered a violation of this permit.

Record Keeping and Reporting Requirement

D.7.8 Record Keeping Requirements

- (a) To document compliance with Condition D.7.4, the Permittee shall maintain records of visible emission notations of the buffing stack (Stack A25) exhaust once per shift.
- (b) To document compliance with Condition D.7.5, the Permittee shall maintain records once per shift of the total static pressure drop and scrubbing liquor flow rate during normal operation.
- (c) To document compliance with Condition D.7.2, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.
- (d) To document compliance with Condition D.7.6, the Permittee shall maintain records of the results of the inspections required under Condition D.7.6.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.8

FACILITY OPERATION CONDITIONS

Facility Description: Ultraviolet painting and glueing

- (u) One (1) ultraviolet painting operation, identified as Flange Painting, using roll coating to apply materials, capacity: 200 aluminum reflectors per hour.
- (v) One (1) glueing operation, identified as Glueing, using flow coating to apply materials, capacity: 50 aluminum reflectors per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.8.1 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

Any change or modification that increases the VOC emissions from the one (1) proposed glueing operation or the one (1) proposed ultraviolet coating operation to fifteen (15) pounds per day or more, shall cause the facility to become subject to 326 IAC 8-2-9, and shall require prior IDEM, OAQ, approval.

SECTION D.9

FACILITY OPERATION CONDITIONS

Facility Description: Paved and unpaved roads

(w) Paved and unpaved roads.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

See Conditions C.4 and C.5.

MALFUNCTION REPORT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
FAX NUMBER - 317 233-5967

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?____, 25 TONS/YEAR SULFUR DIOXIDE ?____, 25 TONS/YEAR NITROGEN OXIDES ?____, 25 TONS/YEAR VOC ?____, 25 TONS/YEAR HYDROGEN SULFIDE ?____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?____, 25 TONS/YEAR FLUORIDES ?____, 100 TONS/YEAR CARBON MONOXIDE ?____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: _____ PHONE NO. : _____
LOCATION: (CITY AND COUNTY) _____
PERMIT NO. _____ AFS PLANT ID: _____ AFS POINT ID: _____ INSP: _____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/20____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/20____ _____ AM / PM

TYPE OF POLLUTANTS EMITTED: TSP, PM₁₀, SO₂, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____

INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

PAGE 1 OF 2

**Please note - This form should only be used to report malfunctions
applicable to Rule 326 IAC 1-6 and to qualify for
the exemption under 326 IAC 1-6-4.**

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

* **Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

PAGE 2 OF 2

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH**

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name:
Address:
City:
Phone #:
MSOP #:

I hereby certify that Acuity Lighting Group, Inc., A Delaware Corporation is

☐ still in operation.

☐ no longer in operation.

I hereby certify that Acuity Lighting Group, Inc., A Delaware Corporation is

☐ in compliance with the requirements of MSOP 107-17896-00037.

☐ not in compliance with the requirements of MSOP 107-17896-00037.

Authorized Individual (typed):
Title:
Signature:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

Affidavit of Construction

5. Additional buffing operations, anodizing lines, glueing operations, ultraviolet painting operations, boilers or air makeup units were constructed/substituted as described in the attachment to this document and were not made in accordance with the Construction Permit. (Delete this statement if it does not apply.)

Subscribed and sworn to me, a notary public in and for _____ County and State of Indiana
on this _____ day of _____, 20 _____.

My Commission expires: _____ .

Signature

Name (typed or printed)

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for New Source Construction and a Minor Source Operating Permit

Source Background and Description

Source Name:	Acuity Lighting Group, Inc., A Delaware Corporation
Source Location:	1615 East Elmore Street, Crawfordsville, Indiana 47933
County:	Montgomery
SIC Code:	3645
Operation Permit No.:	MSOP 107-17896-00037
Permit Reviewer:	CarrieAnn Paukowits

The Office of Air Quality (OAQ) has reviewed an application from Acuity Lighting Group, Inc., A Delaware Corporation relating to the construction and operation of a lighting fixture manufacturing source.

This permit contains provisions intended to satisfy the requirements of the construction permit rules.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) pyrolysis cleaning oven, identified as A4, constructed in 2000, controlled with an afterburner and exhausting to Stack A4, rated at 0.95 million British thermal units per hour, capacity: 20 pounds of metal parts per hour.
- (b) One (1) natural gas-fired air make-up unit, identified as A1, constructed in 1986, exhausting to Stack A1, rated at 1.925 million British thermal units per hour.
- (c) One (1) natural gas-fired air make-up unit, identified as A2, constructed in 1980, exhausting to Stack A2, rated at 2.0 million British thermal units per hour.
- (d) One (1) natural gas-fired air make-up unit, identified as A3, constructed in 1980, exhausting to Stack A3, rated at 2.0 million British thermal units per hour.
- (e) One (1) natural gas-fired air make-up unit, identified as B1, constructed in 2000, exhausting to Stack B1, rated at 1.944 million British thermal units per hour.
- (f) One (1) natural gas-fired air make-up unit, identified as B2, constructed in 1979, exhausting to Stack B2, rated at 1.646 million British thermal units per hour.
- (g) One (1) natural gas-fired air make-up unit, identified as B3, constructed in 1977, exhausting

to Stack B3, rated at 1.5 million British thermal units per hour.

- (h) One (1) water treatment burner, identified as A5, constructed in 1985, exhausting to Stack A5, rated at 2.5 million British thermal units per hour.
- (i) One (1) water treatment burner, identified as A6, constructed in 1985, exhausting to Stack A6, rated at 3.8 million British thermal units per hour.
- (j) One (1) bake oven, identified as A7, constructed in 1985, exhausting to Stack A7, rated at 3.5 million British thermal units per hour.
- (k) One (1) drying oven, identified as A8, constructed in 1985, exhausting to Stack A8, rated at 2.0 million British thermal units per hour.
- (l) Six (6) metal inert gas welding stations, constructed in 1995, capacity: 1.7 pounds of wire per station per hour and a total of 1,500 pounds of sheet metal per hour.
- (m) One (1) fully enclosed powder paint line, consisting of three (3) application booths, installed in March 1986, equipped with dust collectors to reclaim paint, capacity: 347,000 pounds of powder paint per year.
- (n) One (1) roll coating process, beginning operation in June 1987, capacity: 170 metal parts per hour.

Unpermitted Emission Units and Pollution Control Equipment

The source also consists of the following unpermitted facilities/units:

- (a) One (1) natural gas-fired air makeup unit, identified as A9, constructed in April 2002, exhausting to Stack A9, rated at 1.944 million British thermal units per hour.
- (b) One (1) natural gas-fired air makeup unit, identified as A10, constructed in April 2002, exhausting to Stack A10, rated at 2.916 million British thermal units per hour.

New Emission Units and Pollution Control Equipment

The application includes information relating to the construction and operation of the following equipment:

- (a) Two (2) natural gas-fired air makeup units, identified as A11 and A12, exhausting to Stacks A11 and A12, respectively, rated at 4.579 million British thermal units per hour, each.
- (b) Two (2) natural gas-fired boilers, identified as A13₁ and A13₂, exhausting to Stack A13, rated at 3.360 million British thermal units per hour, each.
- (c) One (1) anodizing line, with a maximum capacity of 2,000 pounds of parts per hour, consisting of:
 - (1) Three (3) natural gas-fired dryers, identified as A14 through A16, with dryers A14 and A15 exhausting to Stack A14 and dryer A16 exhausting to Stack A16, rated at 0.55 million British thermal units per hour, each.

- (2) Three (3) alkaline cleaner tanks, identified as A17 and exhausting through Stack A17, using a cleaner and sodium hydroxide, maximum usage rate: 60 pounds per hour.
- (3) One (1) caustic etch tank, identified as A18 and equipped with a scrubber, identified as S1, exhausting through Stack A18, using sodium hydroxide and etching materials, maximum solution usage rate: 40 pounds per hour.
- (4) One (1) acid clean tank, identified as A19 and exhausting through Stack A19, using phosphoric acid, maximum acid cleaner usage rate: 10 pounds per hour.
- (5) One (1) Bright Dip tank, identified as A20 and equipped with a scrubber, identified as S2, exhausting to Stack A20, using phosphoric acid and nitric acid, maximum acid usage rate: 580 pounds per hour.
- (6) One (1) Desmut tank, identified as A21 and exhausting through Stack A21, using nitric acid, maximum acid usage rate: 20 pounds per hour.
- (7) Five (5) sulfuric acid anodizing tanks, identified as A22, equipped with a scrubber, identified as S3, and exhausting to Stack A22, maximum acid usage rate: 100 pounds per hour.
- (8) Three (3) seal tanks, identified as A23 and exhausting through Stack A23, maximum material usage rate: 6.0 pounds per hour, total.
- (9) One (1) seal tank, identified as A24, and exhausting through Stack A24, maximum material usage rate: 2.0 pounds per hour.
- (d) Fifteen (15) buffing machines, identified as A25, all exhausting to a scrubber, identified as S4, and exhausting through Stack A25, maximum capacity: 30 pounds of buffing compound and 2,000 pounds of parts per hour.
- (e) One (1) ultraviolet painting operation, identified as Flange Painting, using roll coating to apply materials, capacity: 200 aluminum reflectors per hour.
- (f) One (1) glueing operation, identified as Glueing, using flow coating to apply materials, capacity: 50 aluminum reflectors per hour.
- (g) Paved and unpaved roads.

Existing Approvals

The source has been operating under the following previous approvals including:

Registered Construction and Operation Status, 107-12829-00037, issued on March 14, 2001

All terms and conditions from previous approvals issued pursuant to the permitting programs approved into the State Implementation Plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous approvals are superseded upon issuance of this permit.

The following terms and conditions from previous approvals have been determined to be no longer applicable, and, therefore, are not incorporated into this permit:

- (a) Registered Construction and Operation Status, 107-12829-00037, issued on March 14, 2001

Condition (d): Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the six (6) welding stations shall not exceed 3.38 pounds per hour when operating at a process weight rate of 1,500 pounds per hour.

Reason not incorporated: The welding operations at this source consume no more than 245 pounds of weld wire or rod per day, total, which is less than 625 pounds per day. Therefore, the welding operations are now exempt from the requirements of 326 IAC 6-3, pursuant to 326 IAC 6-3-1(b)(9).

- (b) All construction conditions from all previous permits.

Reason not incorporated: All facilities previously permitted have already been constructed. Therefore, the construction conditions are no longer necessary as part of the operating permit. Any facilities that were previously permitted but have not yet been constructed would need new pre-construction approval before beginning construction.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
A1	Air Makeup Unit	30	0.75	400	110
A2	Air Makeup Unit	30	0.75	400	110
A3	Air Makeup Unit	30	0.75	400	110
A4	Pyrolysis Cleaning Oven	32	1.0	550	250
A5	Water Treatment Burner	35	1.0	550	150
A6	Water Treatment Burner	35	1.0	550	150
A7	Bake Oven	35	1.0	550	170
A8	Drying Oven	35	1.0	550	170
A9	Air Makeup Unit (A9)	30	0.75	400	110
A10	Air Makeup Unit (A10)	30	0.75	400	110
A11	Air Makeup Unit (A11)	30	0.75	400	110
A12	Air Makeup Unit (A12)	30	0.75	400	110
A13	Boilers (A13 ₁ and A13 ₂)	30	0.75	400	110
A14	Drying Ovens (A14 and A15)	40	0.83	400	110
A16	Drying Oven (A16)	40	0.5	400	110
A17	Three (3) Alkaline Cleaner Tanks (A17)	40	3.16	17,187	140

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
A18	Etch Tank (A18) and Scrubber (S1)	40	2.9	12,375	110
A19	Acid Clean Tank (A19)	40	1.67	5,729	120
A20	Bright Dip Tank (A20) and Scrubber (S2)	40	3.0	12,960	150
A22	Five (5) Anodize Tanks (A22) and Scrubber (S3)	40	5.0	38,500	Ambient
A23	Three (3) Seal Tanks (A23)	40	3.17	17,187	160
A24	One (1) Seal Tank (A24)	40	1.67	5,729	160
A25	Fifteen (15) Buffing Machines (A25) and Scrubber (S4)	40	3.5	30,000	Ambient
Weld	Six (6) Welding Stations	22	1.5	1,500	85
B1	Air Makeup Unit	12	0.75	400	110
B2	Air Makeup Unit	12	0.75	400	110
B3	Air Makeup Unit	12	0.75	400	110

Enforcement Issue

- (a) The equipment listed in this Technical Support Document under the heading *Unpermitted Emission Units and Pollution Control Equipment* includes exempt emission units, which, at the time of construction, did not change the required approval level. There are no conditions specifically applicable to these facilities. Therefore, that modification would have been a notice-only change pursuant to 326 IAC 2-5.5-6(d)(12), "Modifications that consist of emission units described under 326 IAC 2-1.1-3(d)(1) through 326 IAC 2-1.1-3(d)(31)." The applicant did not submit a notification within thirty (30) days of making the change, as required by 326 IAC 2-5.5-6(e).
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the registration source modification rules.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on August 28, 2003, with additional information received on October 3 and 10, 2003.

Emission Calculations

The applicant provided emissions for the anodizing line tank sources (A17 and A19 through 22) based on the EPA's "Metal Finishing Facility Risk Screening Tool" (September 2002). These emissions are summarized as follows:

Tan k ID	Proce s	Chemical Constituents	Surface Area (ft ²)	Before Control Emission Rate (lbs/hr)	Before Control Emissio n Rate (tons/yr)	Control Efficiency (%)	After Control Emissio n Rate (lbs/hr)	After Control Emission Rate (tons/yr)
A17	Alkaline Soak Cleaning	Sodium Metasilicate Hexylene Glycol (3%)	144	0.30 PM and PM ₁₀	1.31 PM and PM ₁₀		0.30 PM and PM ₁₀	1.31 PM and PM ₁₀
A19	Acid Cleaner	Phosphoric Acid (3%)	48	0.028 PM and PM ₁₀	0.123 PM and PM ₁₀		0.028 PM and PM ₁₀	0.123 PM and PM ₁₀
A20	Bright Dip	Phosphoric Acid (80%) Nitric Acid (3%)	52	0.84 PM, PM ₁₀ and NO _x	3.68 PM, PM ₁₀ and NO _x	94	0.050 PM, PM ₁₀ and NO _x	0.221 PM, PM ₁₀ and NO _x
A21	Desmut	Nitric Acid (10%)	44	0.08 PM, PM ₁₀ and NO _x	0.350 PM, PM ₁₀ and NO _x		0.08 PM, PM ₁₀ and NO _x	0.350 PM, PM ₁₀ and NO _x
A22	Sulfuric Acid Anodize	Sulfuric Acid (18%)	268	0.08 PM, PM ₁₀ and SO ₂	0.350 PM, PM ₁₀ and SO ₂	94	0.005 PM, PM ₁₀ and SO ₂	0.021 PM, PM ₁₀ and SO ₂

The applicant also provided emissions calculations for the one (1) etch tank (A18) and the four (4) seal tanks (A23 and A24). These calculations were based on the New York State Department of Environmental Conservation, Environmental Conservation Handbook, Chapter 3600, and have been determined to be accurate. These emissions are summarized as follows:

Tan k ID	Process	Materials	Emissio n Rate (%)	Before Control Emission Rate (lbs/hr)	Before Control Emissio n Rate (tons/yr)	Control Efficiency (%)	After Control Emission Rate (lbs/hr)	After Control Emission Rate (tons/yr)
A18	Etch Tank	Caustic Etch (80% water)	5	0.40 PM and PM ₁₀	1.75 PM and PM ₁₀	94	0.024 PM and PM ₁₀	0.105 PM and PM ₁₀
A23 and A24	Four (4) Seal Tanks	Seal (90% water)	1	0.008 PM and PM ₁₀	0.035 PM and PM ₁₀		0.008 PM and PM ₁₀	0.035 PM and PM ₁₀

Thus, the uncontrolled potential PM and PM₁₀ emissions from the anodizing line are 7.60 tons per year. The uncontrolled potential NO_x emissions are 4.03 tons per year and the uncontrolled potential SO₂ emissions are 0.350 tons per year.

See pages 1 through 11 of 11 of Appendix A of this document for detailed emissions calculations for

all other processes at this source.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	79.4
PM ₁₀	80.3
SO ₂	0.581
VOC	9.17
CO	17.4
NO _x	24.4

HAPs	Potential To Emit (tons/year)
Benzene	0.0004
Dichlorobenzene	0.0002
Formaldehyde	0.015
Hexane	0.364
Toluene	0.0007
Lead	0.0001
Cadmium	0.0002
Chromium	0.0007
Manganese	0.002
Nickel	0.0004
Ethyl benzene	0.029
TOTAL	0.407

- (a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM and PM₁₀ are equal to or greater than twenty-five (25) tons per year, but less than one hundred (100) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1.

(b) Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

No previous emission data has been received from the source.

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs
Existing pyrolysis cleaning oven (A4), air makeup units (A1 - A3 and B1 - B3), water treatment burners (A5 and A6), bake oven (A7) and drying oven (A8)	0.505	1.10	0.172	0.703	9.18	10.5	0.196
Existing welding	1.08	1.08	-	-	-	-	0.002
One (1) existing powder paint line and one (1) existing roll coating line	17.1	17.1	-	7.84	-	-	-
Four (4) proposed air makeup units (A9 - A12, two (2) proposed boilers (A13 ₁ and A13 ₂) and three (3) dryers at the anodizing line (A14 and A15)	0.186	0.745	0.059	0.539	8.24	9.81	0.185
One (1) proposed anodizing line (excluding dryers)	7.60	7.60	0.350	-	-	4.03	-
Fifteen (15) proposed buffing machines	18.1	18.1	-	-	-	-	-
Glueing and ultraviolet painting	-	-	-	0.084	-	-	0.029

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs
Paved and unpaved roads	0.216	0.013	-	-	-	-	-
Total Emissions	44.8	45.8	0.581	9.17	17.4	24.3	0.412

The values in the table represent the unrestricted potential to emit of the facilities, except for the PM and PM₁₀ values for the buffing operations. The PM and PM₁₀ values for buffing are the equivalent annual emissions, assuming the maximum allowable hourly emission rate pursuant to 326 IAC 6-3-2 for every hour of the year. See page 11 of 11 of TSD Appendix A.

County Attainment Status

The source is located in Montgomery County.

Pollutant	Status
PM ₁₀	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Montgomery County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) Montgomery County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	18.7
PM ₁₀	19.3

Pollutant	Emissions (ton/yr)
SO ₂	0.172
VOC	8.54
CO	9.18
NO _x	10.5

- (a) This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.
- (b) These emissions were based on the Technical Support Document to Registered Construction and Operation Status, 107-12829-00037, issued on March 14, 2001.
- (c) The existing source was a registered source. Due to the addition of the proposed emission units described in this document, the source requires a Minor Source Operating Permit (MSOP).

Proposed Modification

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

Pollutant	PM (ton/yr)	PM ₁₀ (ton/yr)	SO ₂ (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO _x (ton/yr)
Proposed Modification	26.1	26.5	0.409	0.623	8.24	13.8
PSD Threshold Level	250	250	250	250	250	250

- (a) The values in the table represent the unrestricted potential to emit of the facilities, except for the PM and PM₁₀ values for the buffing operations. The PM and PM₁₀ values for buffing are the equivalent annual emissions, assuming the maximum allowable hourly emission rate pursuant to 326 IAC 6-3-2 for every hour of the year.
- (b) This modification to an existing minor stationary source is not major because the emission increase is less than the PSD threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source based on the emissions summarized in this permit, MSOP 107-17896-0003, is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than one hundred (100) tons per year,

- (b) a single hazardous air pollutant (HAP) is less than ten (10) tons per year, and
- (c) any combination of HAPs is less than twenty-five (25) tons per year.

This status is based on all the air approvals issued to the source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) The pyrolysis cleaning oven is not subject to NSPS Subpart E (40 CFR Part 60.50) and 326 IAC 12, because the paint residues being combusted do not meet the definition of solid waste as defined by 40 CFR Part 60.51(b).
- (c) The two (2) proposed boilers, identified as A13₁ and A13₂, rated at 3.360 million British thermal units per hour, each, are not subject to the New Source Performance Standards, 326 IAC 12, 40 CFR 60.40c, Subpart Dc, because they each have a capacity less than 10 million British thermal units per hour.
- (d) The anodizing operations at this source are not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAPs), 326 IAC 14, (40 CFR 63, Subpart N, and 326 IAC 20-8-1), because there is no chromium anodizing at this source.
- (e) This source is not a major source of HAPs (i.e., the source has the potential to emit less than 10 tons per of a single HAP and 25 tons per year of a combination of HAPs). Therefore, the requirements of 40 CFR 63, Subpart MMMM, for Miscellaneous Metal Parts and Products Surface Coating, are not applicable.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This source, constructed after August 7, 1977, is not one (1) of the twenty-eight (28) listed source categories and has unrestricted potential emissions less than two hundred and fifty (250) tons per year of each criteria pollutant. Therefore, the requirements of 326 IAC 2-2, PSD, are not applicable.

326 IAC 2-4.1-1 (New Source Toxics Control)

Since the source has potential emissions of a single HAP and any combination of HAPs that are less than the major source levels of ten (10) and twenty-five (25) tons per year, respectively. Therefore, this source is not subject to the requirements of 326 IAC 2-4.1-1.

326 IAC 2-6 (Emission Reporting)

This source is located in Montgomery County and the potential to emit PM₁₀, NO_x, SO₂, CO and VOC is less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary

alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)

This source contains some unpaved roads which are rarely used, but which will result in some fugitive particulate emissions (see page 10 of 11 of Appendix A of this document). Therefore, the source is subject to 326 IAC 6-5, Fugitive Particulate Matter Emission Limitations. Based on the fugitive dust control plan submitted on August 28, 2003, the applicant must clean all roads and parking lots on an as needed basis.

State Rule Applicability - Individual Facilities

326 IAC 4-2-2 (Incinerators)

Pursuant to 326 IAC 4-2-2, the one (1) controlled pyrolysis cleaning oven, which serves as an incinerator, shall:

- (a) Consist of primary and secondary chambers or the equivalent;
- (b) Be equipped with a primary burner;
- (c) Comply with 326 IAC 5-1 (Opacity Limitations) and 326 IAC 2 (Permit Review Rules);
- (d) Be maintained properly as specified by the manufacturer and approved by IDEM;
- (e) Be operated according to the manufacturer's recommendation and only burn waste approved by IDEM;
- (f) Comply with other state and/or local rules or ordinances regarding installation and operation of incinerators;
- (g) Be operated so that emissions of hazardous materials including, but not limited to, viable pathogenic bacteria, dangerous chemical or gases, or noxious odors are prevented;
- (h) Not create a nuisance or a fire hazard; and
- (i) Not emit particulate matter (PM) in excess of 0.5 pounds per 1,000 pounds of dry exhaust gas

corrected to fifty percent (50%) excess air.

The operation of the incinerator shall be terminated immediately upon noncompliance with any of the above mentioned requirements.

The incinerator has a maximum exhaust rate of 0.05 pounds of PM per 1,000 pounds of dry exhaust gas, corrected to fifty percent (50%) excess air, based on calculations supplied by the applicant. Therefore, one (1) pyrolysis cleaning oven is in compliance with this rule.

326 IAC 8-2-9 (Miscellaneous Metal Coating)

- (a) The one (1) roll coating process, beginning operation prior to 1990, has potential VOC emissions less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 8-2-9 are not applicable.
- (b) The one (1) powder paint line, beginning operation prior to 1990, has potential VOC emissions less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 8-2-9 are not applicable.
- (c) The one (1) proposed glueing operation and the one (1) proposed ultraviolet coating operation each have potential VOC emissions less than fifteen (15) pounds per day. Therefore, the requirements of 326 IAC 8-2-9 are not applicable.

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

- (a) The welding operations at this source consume no more than 245 pounds of weld wire or rod per day, total, which is less than 625 pounds per day. Therefore, the welding operations are exempt from the requirements of 326 IAC 6-3, pursuant to 326 IAC 6-3-1(b)(9).
- (b) The roll coating process is exempt from the requirements of 326 IAC 6-3, pursuant to 326 IAC 6-3-1(b)(6), "Surface coating using roll coating."
- (c) The one (1) enclosed powder paint booth is subject to the requirements of 326 IAC 6-3-2(d). Pursuant to that rule, particulate from the surface coating shall be controlled by a dry particulate filter, waterwash, or an equivalent control device, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

If overspray is visibly detected at the exhaust or accumulates on the ground, the Permittee shall inspect the control device and do either of the following no later than four (4) hours after such observation:

- (1) Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
- (2) Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

If overspray is visibly detected, the Permittee shall maintain a record of the action taken as a result of the inspection, any repairs of the control device, or change in operations, so that overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.

The powder paint booth is fully enclosed and equipped with dust collectors. Therefore, the one (1) powder paint booth complies with the control requirements of this rule.

- (d) The three (3) alkaline cleaner tanks, identified as A17 and exhausting through Stack A17, one (1) caustic etch tank, identified as A18 and exhausting through Stack A18, the one (1) acid clean tank, identified as A19 and exhausting through Stack A19, the one (1) Desmut tank, identified as A21 and exhausting through Stack A21, the five (5) sulfuric acid anodizing tanks, identified as A22 and exhausting to Stack A22, the three (3) seal tanks, identified as A23 and exhausting through Stack A23, and the one (1) seal tank, identified as A24, and exhausting through Stack A24, have the potential particulate emissions less than 0.551 pounds per hour from each process. Therefore, those facilities are exempt from the requirements of 326 IAC 6-3, pursuant to 326 IAC 6-3-1(b)(14), "Manufacturing processes with potential emissions less than five hundred fifty-one thousandths (0.551) pound per hour."
- (e) The particulate from the one (1) Bright Dip tank, identified as A20 and equipped with a scrubber, identified as S2, exhausting to Stack A20, shall not exceed 4.86 pounds per hour, when operating a process weight rate of 2,580 pounds of parts and acid per hour. Since the unrestricted potential particulate emissions from the Bright Dip tank are 0.84 pound per hour, the one (1) Bright Dip tank will comply with this rule. The control device is not required for this facility to comply with the rule.
- (f) The particulate from the fifteen (15) buffing machines, collectively identified as A25 and exhausting through Stack A25, shall not exceed 4.14 pounds per hour, total, when operating a process weight rate of 2,030 pounds of parts and buffing materials per hour. Since the unrestricted potential particulate emissions from the fifteen (15) buffing machines are 12.0 pound per hour, and the potential to emit after controls is 0.024 pound per hour, the scrubber (S4) must be in operation at all times when the fifteen (15) buffing machines are in operation in order for the facility to comply with this rule.
- (g) The one (1) glueing operation will use flow coating to apply materials. Therefore, the one (1) glueing operation is exempt from the requirements of 326 IAC 6-3, pursuant to 326 IAC 6-3-1(b)(7) "Surface coating using flow coating."
- (h) The one (1) ultraviolet painting operation will use roll coating to apply materials. Therefore, the one (1) glueing operation is exempt from the requirements of 326 IAC 6-3, pursuant to 326 IAC 6-3-1(b)(6) "Surface coating using roll coating."

The limitations in (e) and (f), above, are based upon the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

326 IAC 6-2-4 (Particulate Emissions Limitations for Facilities Constructed after September 21, 1983)

The two (2) proposed boilers, identified as A13₁ and A13₂, must comply with the requirements of 326 IAC 6-2-4. The emission limitations are based on the following equation is given in 326 IAC 6-2-4:

$$Pt = 1.09/Q^{0.26}$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

The heat input capacities of the two (2) boilers are 3.360 million British thermal units per hour, each. There were no boilers in operation at the source when these boilers were constructed.

$$Pt = 1.09/(6.72)^{0.26} = 0.66 \text{ lb/MMBtu heat input}$$

Pursuant to 326 IAC 6-2-4(a), for Q less than 10 mmBtu/hr, Pt shall not exceed 0.6. Therefore, the particulate matter emissions from the boilers are limited to 0.6 pound per million British thermal units.

Based on Appendix A and AP-42, the potential PM emission rate is 1.90 pound per million cubic feet of natural gas or 0.0019 pound per million British thermal units. Therefore, the two (2) boilers will comply with this rule.

326 IAC 7 (Sulfur Dioxide Emission Limitations)

Since the potential to emit SO₂ from the combustion facilities at this source is less than 25 tons per year. Therefore, the requirements of 326 IAC 7 are not applicable.

Conclusion

The construction and operation of this lighting fixture manufacturing source shall be subject to the conditions of the attached proposed New Source Construction and Minor Source Operating Permit 107-17896-00037.

Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document for New Construction and a Minor Source Operating Permit

Source Name:	Acuity Lighting Group, Inc., A Delaware Corporation
Source Location:	1615 East Elmore Street, Crawfordsville, Indiana 47933
County:	Montgomery
SIC Code:	3645
Operation Permit No.:	MSOP 107-17896-00037
Permit Reviewer:	CarrieAnn Paukowits

On November 18, 2003, the Office of Air Quality (OAQ) had a notice published in the Journal Review, Crawfordsville, Indiana, stating that Acuity Lighting Group, Inc., A Delaware Corporation, had applied for a permit to construct and operate a lighting fixture manufacturing source with scrubbers as controls. The notice also stated that OAQ proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On November 21, 2003, Jeffrey Zak of Scientific Control Laboratories, Inc., on behalf of Acuity Lighting Group, Inc., A Delaware Corporation, submitted comments on the proposed construction and operating permit. The summary of the comments and corresponding responses are as follows (The permit language, if changed, has deleted language as ~~strikeouts~~ and new language **bolded**.):

Comment 1:

There are three (3) areas where we would suggest changes to the document. Referring to Section D.7.5 Parametric Monitoring:

1. We don't believe a variation in the pH of the scrubber's recirculated water (i.e. scrubbing liquor) will have any effect on the unit's dust collection performance. We suggest the reference to monitoring the scrubbing fluid's pH is not needed.
2. We suggest that an upper limit to the static pressure drop across the scrubber be 30" w.c. The scrubber has an adjustable venturi that we use to extract the maximum work from static pressure remaining from the exhaust fan after adjustment for ductwork losses. The higher the static pressure available, the better will be the fine (i.e. micron and submicron) particulate removal.

We suggest that a lower limit to the static pressure drop across the scrubber be set at a minimum of 6" w.c. Our experience with other similar buffing and polishing applications indicates this is a realistic minimum value. Below this value, there is a maintenance or equipment problem that must be addressed. A 7-8" w.c. level should be used to alert maintenance staff to investigate for a condition causing a low reading, and schedule for correction of same.

3. We suggest that a realistic minimum recirculated water (i.e. scrubbing liquor) flow rate is 450 USGPM. This represents the upper limit of 15 USGPM per 1,000 CFM that defines a venture scrubber's requirements in "Industrial Ventilation, a Manual of Recommended Practice, 14th edition, page 11-11." Our experience with the DeVansco Air Scrubber indicates it works best

in the 15-25 (or higher) USGPM per 1,000 CFM range. So we suggest a 450 USGPM minimum with an upper limit of 1,200 USGPM. Note that it will be very difficult to measure the flow rate as, for instance, any rotary vane type flow meter will eventually clog with the fibers and particulate in suspension in the scrubbing liquor. We normally detect a drop in the flow rate by a visual noting of a lessening of the water flow through the venturi and a drop in the static pressure across the venturi.

Response 1:

Since a 7.0 - 8.0 inch pressure drop is used at the source to alert maintenance staff to investigate for a condition causing a low reading, a pressure drop below 8.0 inches will require reasonable response steps in accordance the Compliance Response Plan. All other requested changes have been made. Based on the updated information provided for the proposed unit, Condition D.7.5 has been revised as follows:

D.7.5 Parametric Monitoring

The Permittee shall record the total static pressure drop across the scrubber used in conjunction with the fifteen (15) buffing machines (A25), the scrubbing liquor flow rate, and the pH at least once per shift when the buffing machines are in operation. When for any one reading, the pressure drop across the scrubber is outside the normal range of 8.0 and ~~42.0~~ **30.0** inches of water, ~~or the scrubbing liquor flow rate is outside the normal range of 700 450 and 760 1,200~~ gallons per minute, ~~or the pH is outside the normal range of 6 and 8,~~ or ranges established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation and Implementation. A pressure ~~or~~ flow rate ~~or~~ pH reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation and Implementation shall be considered a violation of this permit.

The instruments used for determining the pressure ~~and~~ flow rate, ~~and~~ pH shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

As a result of the revisions to D.7.5, Conditions C.12 and D.7.8 have also been revised. Changes are as follows:

C.12 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11]

- (a) Whenever a condition in this permit requires the measurement of total static pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (b) Whenever a condition in this permit requires the measurement of a temperature or flow rate, the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.
- (c) ~~The Preventive Maintenance Plan for the pH meter shall include calibration using known standards. The frequency of calibration shall be adjusted such that the typical error found at calibration is less than one pH point.~~
- (d) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other

instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.

D.7.8 Record Keeping Requirements

- (a) To document compliance with Condition D.7.4, the Permittee shall maintain records of visible emission notations of the buffing stack (Stack A25) exhaust once per shift.
- (b) To document compliance with Condition D.7.5, the Permittee shall maintain records once per shift of the total static pressure drop, **and** scrubbing liquor flow rate, ~~and pH~~ during normal operation.
- (c) To document compliance with Condition D.7.2, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.
- (d) To document compliance with Condition D.7.6, the Permittee shall maintain records of the results of the inspections required under Condition D.7.6.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Upon further review, the OAQ has decided to make the following change to the construction permit: The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language is **bolded**):

Change 1:

Condition C.13(a)(3) and C.13(b)(3) were identical. Condition C.13(a)(3) has been removed as follows:

C.13 Compliance Response Plan - Preparation and Implementation

- (a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ, upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:
 - (1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.
 - (2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan, the Permittee shall amend its Compliance Response Plan to include such response steps taken.
 - ~~(3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, and it will be 10 days or more until the unit or device will be shut down, then the permittee shall promptly notify the IDEM, OAQ of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.~~

- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:
 - (1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or
 - (2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.
 - (3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, and it will be 10 days or more until the unit or device will be shut down, then the permittee shall promptly notify the IDEM, OAQ of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.
 - (4) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (c) The Permittee is not required to take any further response steps for any of the following reasons:
 - (1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for a minor permit modification to the permit, and such request has not been denied.
 - (3) An automatic measurement was taken when the process was not operating.
 - (4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.
- (d) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler**

Page 1 of 11 TSD App A

Company Name: Acuity Lighting Group, Inc., A Delaware Corporation
Address City IN Zip: 1615 East Elmore Street, Crawfordsville, IN 47933
Permit Number: MSOP 107-17896
Plt ID: 107-00037
Reviewer: CarrieAnn Paukowits
Date: August 28, 2003

Unit ID	Rating (MMBtu/hr)
B1	1.944
B2	1.646
B3	1.5
A1	1.925
A2	2.0
A3	2.0
A4	0.95
A5	2.5
A6	3.8
A7	3.5
A8	2.0
Total	23.765

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

23.77

208

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.90	7.60	0.600	100 **see below	5.50	84.0
Potential Emission in tons/yr	0.198	0.791	0.062	10.4	0.572	8.74

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 3

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-00 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Page 2 of 11 TSD App A

Company Name: Acuity Lighting Group, Inc., A Delaware Corporation
Address City IN Zip: 1615 East Elmore Street, Crawfordsville, IN 47933
Permit Number: MSOP 107-17896
Pit ID: 107-00037
Reviewer: CarrieAnn Paukowits
Date: August 28, 2003

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.10E-03	Dichlorobenze 1.20E-03	Formaldehyd 7.50E-02	Hexane 1.80E+00	Toluene 3.40E-03
Potential Emission in tons/yr	2.19E-04	1.25E-04	7.81E-03	1.87E-01	3.54E-04

	HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.00E-04	Cadmium 1.10E-03	Chromium 1.40E-03	Manganese 3.80E-04	Nickel 2.10E-03	Total
Potential Emission in tons/yr	5.20E-05	1.14E-04	1.46E-04	3.96E-05	2.19E-04	0.196

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emission Calculations
Incinerator
One (1) Pyrolysis Cleaning Oven

Page 3 of 11 TSD App A

Company Name: Acuity Lighting Group, Inc., A Delaware Corporation
Address City IN Zip: 1615 East Elmore Street, Crawfordsville, IN 47933
Permit Number: MSOP 107-17896
Plt ID: 107-00037
Reviewer: CarrieAnn Paukowits
Date: August 28, 2003

<p align="center">THROUGHPUT lbs/hr 20</p>
--

THROUGHPUT
tons/yr
87.6

Emission Factor in lb/ton	POLLUTANT				
	PM	SO2	CO	VOC	NOX
	7.0	2.5	10.0	3.0	3.0
Potential Emissions in ton/yr	0.307	0.110	0.438	0.131	0.131

Methodology

Emission factors are from AP 42 (5th Edition 1/95) Table 2.1-12, Uncontrolled emission factors for industrial/commercial refuse combustors, multiple chambers

Throughput (lb/hr) * 8760 hr/yr * ton/2000 lb = throughput (ton/yr)

Appendix A: Welding and Thermal Cutting

Page 4 of 11 TSD App A

Company Name: Acuity Lighting Group, Inc., A Delaware Corporation
Address City IN Zip: 1615 East Elmore Street, Crawfordsville, IN 47933
Permit Number: MSOP 107-17896
Plt ID: 107-00037
Reviewer: CarrieAnn Paukowits
Date: August 28, 2003

PROCESS	Number of Stations	max. electrode consumption per (lbs/hr)		EMISSION FACTORS * (lb pollutant / lb electrode)				EMISSIONS (lb/hr)				TOTAL HAPS (lb/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
WELDING												
Submerged Arc	0	0		0.036				0.000	0	0.000	0	0.000
Metal Inert Gas (MIG)(ER515	6	1.7		0.0241	3.4E-05		0.00001	0.246	0.000347	0.000	0.000102	0.000
Stick (E7018 electrode)	0	0		0.0211				0.000	0	0.000	0	0.000
Tungsten Inert Gas (TIG)(carbon steel)	0	0		0.0055				0.000	0	0.000	0	0.000
Oxyacetylene(carbon steel)	0	0		0.0055				0.000	0	0.000	0	0.000
FLAME CUTTING	Number of Stations	max. metal thickness cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)				EMISSIONS (lbs/hr)				TOTAL HAPS (lb/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Oxyacetylene	0	0	0	0.1622	0.0005	0.0001	0.0003	0.000	0.000	0.000	0.000	0.000
Oxymethane	0	0	0	0.0815	0.0002		0.0002	0.000	0.000	0.000	0.000	0.000
Plasma	0	0	0					0.000	0.000	0.000	0.000	0.000
EMISSION TOTALS								PM = PM10	Mn	Ni	Cr	Total HAPS
Potential Emissions lbs/hr								0.246	0.0003	0.00	0.0001	0.0004
Potential Emissions lbs/day								5.90	0.008	0.00	0.002	0.011
Potential Emissions tons/year								1.08	0.002	0.00	0.0004	0.002

METHODOLOGY

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column. Consult AP-42 or other reference for different electro

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/day x 1 ton/2,000 lbs.

Plasma cutting emission factors are from the American Welding Society study published in Sweden (March 1994).

Welding and other flame cutting emission factors are from an internal training session document.

See AP-42, Chapter 12.19 for additional emission factors for welding.

**Appendix A: Emissions Calculations
VOC and Particulate
From Existing Surface Coating Operations**

Company Name: Acuity Lighting Group, Inc., A Delaware Corporation
Address City IN Zip: 1615 East Elmore Street, Crawfordsville, IN 47933
Permit Number: MSOP 107-17896
Plt ID: 107-00037
Reviewer: CarrieAnn Paukowits
Date: August 28, 2003

Material	Density (lbs/gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (units/hour)	Pounds VOC per gallon of coating less	Pounds VOC per gallon of coating	Potential VOC (pounds per hour)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Particulate Potential (tons/yr)	lbs VOC/gal solids	Transfer Efficiency
Roll Coating																
Oak Draw 8519	6.34	100.00%	0.00%	100.00%	0.00%	0.00%	0.000928	170.000	6.34	6.34	1.00	24.00	4.38	0.00	n/a	0%
Powder Coating																
Powder Paint	13.18	1.00%	0.00%	1.00%	1.00%	99.00%	0.075988	78.860	0.13	0.13	0.79	18.96	3.46	17.12	0.13	95%

State Potential Emissions	Add worst case coating to all solvents	PM	Control Efficiency	95.00%	Uncontrolled	1.79	43.0	7.84	17.1
					Controlled	1.79	43.0	7.84	0.856

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lbs/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler**

Page 6 of 11 TSD App A

Company Name: Acuity Lighting Group, Inc., A Delaware Corporation
Address City IN Zip: 1615 East Elmore Street, Crawfordsville, IN 47933
Permit Number: MSOP 107-17896
Plt ID: 107-00037
Reviewer: CarrieAnn Paukowits
Date: August 28, 2003

Unit ID	Rating (MMBtu/hr)
A9	1.944
A10	2.916
A11	4.579
A12	4.579
A13-1	3.36
A13-2	3.36
A14	0.55
A15	0.55
A16	0.55
Total	22.388

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

22.39

196

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.90	7.60	0.600	100	5.50	84.0
				**see below		
Potential Emission in tons/yr	0.186	0.745	0.059	9.81	0.539	8.24

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 3

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-02 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 7 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Page 7 of 11 TSD App A

Company Name: Acuity Lighting Group, Inc., A Delaware Corporation
Address City IN Zip: 1615 East Elmore Street, Crawfordsville, IN 47933
Permit Number: MSOP 107-17896
Pit ID: 107-00037
Reviewer: CarrieAnn Paukowits
Date: August 28, 2003

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.10E-03	Dichlorobenze 1.20E-03	Formaldehyd 7.50E-02	Hexane 1.80E+00	Toluene 3.40E-03
Potential Emission in tons/yr	2.06E-04	1.18E-04	7.35E-03	1.77E-01	3.33E-04

HAPs - Metals						
Emission Factor in lb/MMcf	Lead 5.00E-04	Cadmium 1.10E-03	Chromium 1.40E-03	Manganese 3.80E-04	Nickel 2.10E-03	Total
Potential Emission in tons/yr	4.90E-05	1.08E-04	1.37E-04	3.73E-05	2.06E-04	0.185

Methodology is the same as page 6.

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emission Calculations
Particulate Emissions
Buffing Operations**

Company Name: Acuity Lighting Group, Inc., A Delaware Corporation
Address City IN Zip: 1615 East Elmore Street, Crawfordsville, IN 47933
Permit Number: MSOP 107-17896
Plt ID: 107-00037
Reviewer: CarrieAnn Paukowits
Date: August 28, 2003

Unit ID	Production Schedule (hrs/yr)	Weight of Material Collected (lbs/yr)	Amount Collected (lbs/hr)	Potential Collected (tons/yr)	Control Efficiency	PM Potential Generated (lbs/hr)	PM Potential Generated (tons/yr)	PM Emissions after controls (lbs/hr)	PM Emissions after controls (tons/yr)
Buffing (A25)	4160	50000	12.0	52.6	99.8%	12.0	52.7	0.024	0.105

Methodology

PM = PM10

Actual collected (lbs/hr) = Weight of Material Collected (lbs/yr) / Production schedule (hrs/yr)

Potential collected (tons/yr) = Amount collected (lbs/hr) x 8,760 hrs/yr / 2,000 lbs/ton

Potential generated (lbs/hr) = amount collected (lbs/hr) / control efficiency (%)

Potential generated (tons/yr) = Potential generated (lbs/hr) * (8760 hr/yr) * (ton/2000 lb)

Emissions after controls (lbs/hr) = potential generated (lbs/hr) * (1-control efficiency (%))

Emissions after controls (tons/yr) = Emissions after controls (lbs/hr) * (8760 hr/yr) * (ton/2000 lb)

**Appendix A: Emissions Calculations
VOC and Particulate
From New Surface Coating Operations**

Company Name: Acuity Lighting Group, Inc., A Delaware Corporation
Address City IN Zip: 1615 East Elmore Street, Crawfordsville, IN 47933
Permit Number: MSOP 107-17896
Plt ID: 107-00037
Reviewer: CarrieAnn Paukowits
Date: August 28, 2003

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Glueing																
Locktite 352 Light Cure	9.3	3.240%	0.0%	3.240%	0.0%	100.00%	0.00050	50.000	0.30	0.30	0.007	0.180	0.033	0.00	0.30	100%
Flange Painting																
3275 Super Opaque	10.8	0.230%	0.0%	0.230%	0.0%	100.00%	0.00100	200.000	0.02	0.02	0.005	0.119	0.022	0.00	0.02	100%
3278 HI White	11.8	0.280%	0.0%	0.280%	0.0%	100.00%	0.00100	200.000	0.03	0.03	0.007	0.159	0.029	0.00	0.03	100%

PM Control Efficiency: 0.00%

State Potential Emissions **Add worst case coating to all solvents**

Uncontrolled **0.019** **0.458** **0.084** **0.000**
Controlled **0.019** **0.458** **0.084** **0.000**

METHODOLOGY

Ethylbenzene* : 0.029

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

*The 3278 HI White contains Ethylbenzene at a weight percent up to 0.280%

Appendix A: Emission Calculations Unpaved Roads

Company Name: Acuity Lighting Group, Inc., A Delaware Corporation
Address City IN Zip: 1615 East Elmore Street, Crawfordsville, IN 47933
Permit Number: MSOP 107-17896
Plt ID: 107-00037
Reviewer: CarrieAnn Paukowits
Date: August 28, 2003

The following calculations determine the amount of emissions created by vehicle traffic on unpaved roads, based on 8760 hours of use and AP-42, Ch 11.2.1.

<u>8.0</u>	trips/month x				
<u>0.400</u>	miles/roundtrip x				
	12 months/yr =		<u>38.4</u>	miles per year	
For PM		For PM-10			
		$E_f = \{k \cdot [(s/12)^{0.8}] \cdot [(W/3)^b] / [(M_{dry}/0.2)^c] \cdot [(365-p)/365]\}$			
11.24		= 0.70 lb/mile			
10	where k =	2.6	(particle size multiplier for PM-10) (k=10 for PM-30 or TSP)		
4.8	s =	4.8	mean % silt content of unpaved roads		
0.5	b =	0.4	Constant for PM-10 (b = 0.5 for PM-30 or TSP)		
0.4	c =	0.3	Constant for PM-10 (c = 0.4 for PM-30 or TSP)		
38	W =	2	tons average vehicle weight		
0.2	M _{dry} =	0.2	surface material moisture content, % (default is 0.2 for dry conditions)		
125	p =	125	number of days with at least 0.254mm of precipitation (See Figure 13.2.2-1)		
	11.24 lb/mi x	38.4 mi/yr =	PM	<u>0.216</u>	tons/yr
		2000 lb/ton			
	0.70 lb/mi x	38.4 mi/yr =	PM-10	<u>0.013</u>	tons/yr
		2000 lb/ton			

**Appendix A: Emission Calculations
Summary Page**

Page 11 of 11 TSD App A

Company Name: Acuity Lighting Group, Inc., A Delaware Corporation
Address City IN Zip: 1615 East Elmore Street, Crawfordsville, IN 47933
Permit Number: MSOP 107-17896
Plt ID: 107-00037
Reviewer: CarrieAnn Paukowits
Date: August 28, 2003

Facility	Unrestricted Potential Emissions (tons/yr)						Controlled Emissions (tons/yr)		Limited Potential to Emit based on 326 IAC 6-3-2 Particulate (lbs/hr)	Potential to Emit (PTE) (tons/yr)	
	PM	PM-10	SO ₂	Nox	VOC	CO	PM	PM-10		PM	PM-10
Existing Combustion (page 1)	0.198	0.791	0.062	10.4	0.572	8.74	0.198	0.791		0.198	0.791
Pyrolysis Cleaning Oven (page 3)	0.307	0.307	0.110	0.131	0.131	0.438	0.307	0.307		0.307	0.307
Welding (page 4)	1.08	1.08	0.00	0.00	0.00	0.00	1.08	1.08		1.08	1.08
Roll Coating (page 5)	0.00	0.00	0.00	0.00	4.38	0.00	0.00	0.00		0.00	0.00
Powder Coating (page 5)	17.1	17.1	0.00	0.00	3.46	0.00	0.86	0.86		17.1	17.1
Proposed Combustion (page 6)	0.186	0.745	0.059	9.81	0.539	8.24	0.198	0.791		0.186	0.745
Proposed Buffing (page 8)	52.7	52.7	0.00	0.00	0.00	0.00	0.105	0.105	4.14	18.1	18.1
Proposed Glueing (page 9)	0.00	0.00	0.00	0.00	0.033	0.00	0.000	0.000		0.00	0.00
Proposed Painting (page 9)	0.00	0.00	0.00	0.00	0.051	0.00	0.000	0.000		0.00	0.00
Unpaved roads (page 10)	0.216	0.013	0.00	0.00	0.00	0.00	0.216	0.013		0.216	0.013
Anodizing Line (TSD page 6)	7.60	7.60	0.350	4.03	0.00	0.00	2.17	2.17	4.86	7.60	7.60
Total	79.4	80.3	0.581	24.4	9.17	17.4	5.13	6.11		44.8	45.8

Methodology

The limited potential to emit is the lesser of the unrestricted potential emissions and the annual equivalent of the allowable emissions based on 326 IAC 6-3-2.